

REMARKS

Pursuant to the Examiner's request, formal drawings for this application are hereby submitted as Attachment 1.

The Examiner continues to maintain the rejection of claims 1 and 3 under 35 U.S.C. 103(a) as being unpatentable over of combination of Jiang et al ("Jiang") in view of He et al ("He"), and claims 2 and 4-6 further in view of Minamino et al ("Minamino") and claim 7 further in view of Schmidt. Claims 8 and 9 are objected to as depending from a rejected base claim, and claims 10 and 11 are allowed.

Jiang addresses the issue of back reflection from the end face of the optical fiber and/or the surface of the photodetector. Jiang solves this problem by tilting the end face of the optical fiber relative to the surface of the photodetector either by beveling the end face of the optical fiber (to remove back reflection from the end face) and/or by tilting the end face of the optical fiber relative to the surface of the photodetector. He admits that tilting an interface between two light transmissive media relative to the direction of incidence of a light beam introduces polarization dependency, i.e., the Jiang solution to solve the back reflection problem introduces polarization dependency. He seeks to correct at least partially the PDR of the photodetector itself by intentionally introducing an opposing PDR by the use of a window or interface between the end face of the optical fiber and the photodetector. Combining He with Jiang would be to introduce an interface or window between the beveled end face of the fiber and the photodetector in order to intentionally introduce PDR into the system to attempt to partially correct the PDR characteristic of the photodetector.

Applicant proposes to amend claim 1 to recite that the light impinges "directly" on the detector from the beveled end of the optical fiber, i.e., there is no intervening "interface" as required by He to correct PDR. Also for clarity Applicant has amended

claim 1 to recite that the relative rotation between the beveled end and the tilted detector is “about the optical axis”. Thus claim 1 as amended is deemed to be allowable as being nonobvious to one of ordinary skill in the art over Jiang in view of He.

Further Applicant has amended claim 3 to recite “the fiber holding, detector holding and connection portions being an integral whole”, i.e., a unitary construction as opposed to independent parts as in Jiang where the fiber and detector holding portions are separate parts with a separate spacer between them. Therefore claim 3 is deemed also to be allowable as being nonobvious to one of ordinary skill in the art over Jiang in view of He.

With respect to claims 2 and 4 Minamino uses an inclination adjusting piece or a properly sized ball to adjust a set predetermined angle between the connection end face of the ferrule and the light emitting surface of the laser array. Applicant has amended claims 2 and 4 to indicate that the adjusting means is adaptive, as opposed to fixed as taught by Minamino. Thus claims 2 and 4 also are deemed to be allowable as being nonobvious to one of ordinary skill in the art over Jiang in view of He and Minamino.

With respect to claim 5, since none of the references have a unitary construction where the “connection portion” is flexible where there is means for angularly varying the gap “by rotating about a point in the connection portion”, claim 5 also is deemed to be allowable as being nonobvious to one of ordinary skill in the art over Jiang in view of He and Minamino.

With respect to claim 6 the screw technique is used due to the unitary construction of the housing with the screw exerting pressure to adjust the gap at the end opposite from that of the flexible connection portion to provide the desired tilt. The Examiner shows no reference to support his position, and claim 6 depends from claims deemed to be allowable, therefore claim 6 is deemed to be allowable as

being nonobvious to one of ordinary skill in the art over Jiang in view of He and Minamino.

With respect to claim 7 Schmidt discloses that back reflection is reduced by the tilted boundary at the end of the fiber, and that PDL is reduced by a suitable coating on the boundary surface such that the perpendicular and parallel transmission modes are substantially equal within a given wavelength band. The coupling of the fiber 30 in Schmidt to the adaptor fiber segment 20 is achieved by a glass/glass contact, such as by fusing, so the two fiber segments are essentially a single fiber. Schmidt does not teach or suggest that the opposing end 40 of the fiber segment 20 is coupled to an external fiber 30 "with low back reflection and minimum polarization-dependent responsivity" as recited in claim 7. Schmidt added to the other references would merely place a special coating on the beveled end of the fiber of Jiang. Therefore claim 7 is deemed to be allowable as being nonobvious to one of ordinary skill in the art over Jiang in view of He, Minamino and Schmidt.

Since claims 1-7 are deemed to be allowable for the reasons discussed above, claims 8 and 9 also are deemed to be allowable in their present form as depending from allowable claims.

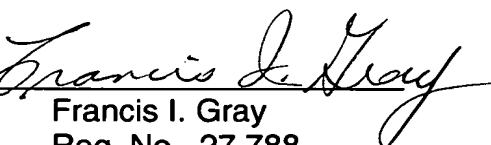
Entry of this amendment and allowance of claims 1-9 are urged, and such action and the issuance of this case are requested. Should the Examiner maintain the rejection of these claims, entry of this amendment is urged as clarifying the issues for appeal.

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